

The Honorable James L. Connaughton
Chairman, Council on Environmental Quality
Executive Office of the President
Washington, D.C. 20006

Dear Mr. Chairman:

The National Oceanic and Atmospheric Administration (NOAA) has reviewed the Final Supplement III to the Final Environmental Impact Statement (FEIS) for the Corps of Engineers' (COE) Manteo (Shallowbag) Bay Project, (MSBP) located in Dare County, North Carolina. The FEIS was filed with the U.S. Environmental Protection Agency on September 21, 2001. The selected alternative identifies construction of a dual jetty system and channel deepening from the present 14 feet to a design depth of 20 feet, to improve navigation at Oregon Inlet. The project would be built on the dynamic barrier islands of the Outer Banks. Let me assure you that NOAA strongly supports the goal of providing safe navigation for the commercial and recreational fishing vessels using Oregon Inlet. However, we believe there are alternatives that can achieve this goal in an environmentally acceptable manner. Accordingly, NOAA is compelled to disagree with the COE's selected alternative of jetty construction because it would cause unacceptable environmental harm to commercial and recreational fishery resources.

Pursuant to the Council on Environmental Quality's (CEQ) procedures for referrals in 40 CFR 1504.3 (c)(2), NOAA is providing this letter and the enclosed referral document to the CEQ for consideration and action. We also enclose for your information a copy of the March 4, 1999, NOAA, National Marine Fisheries Service (NMFS) comments on the draft FEIS.

NOAA has statutorily mandated stewardship and management responsibilities for the Nation's living marine resources. Based on our analysis of information provided by the COE, and on input from a number of distinguished scientists and recognized authorities in the fields of coastal geology, coastal engineering, and marine biology, we conclude that unacceptable environmental risk is involved with building jetties at Oregon Inlet.

It is estimated that over 90 percent of the southeast region's commercially and recreationally important finfish and shellfish rely on estuaries, including those found behind Oregon Inlet, during all or part of their lifecycle. These fisheries contribute greatly to the

economic and social welfare of North Carolina and the Nation. These species would be adversely affected by this project because successful ocean-to-estuary migration of their larvae and post-larvae is essential since maturation is not possible in the ocean environment. Oregon Inlet represents the single, important pathway for larval fish migration into Albemarle Sound and northern Pamlico Sound. Pamlico Sound is also the most important national nursery area for summer flounder and weakfish, which are highly valued by commercial and recreational fishers. Reduction in the ability of these fishes to reach essential nursery and maturation sites is likely to produce a decline in abundance and production of these fish stocks.

The South Atlantic and Mid-Atlantic Fishery Management Councils and NMFS have identified areas of essential fish habitat (EFH) at and near Oregon Inlet which would be impacted by the proposed jetty alternative of the MSBP. Certain habitats within this EFH have been designated as Habitat Areas of Particular Concern because of their very high value and susceptibility to degradation.

In consideration of the unacceptable and potentially serious consequences of building jetties at Oregon Inlet, NOAA/NMFS has, for the past ten years, provided technical information to the COE, and consistently has requested that they fairly and objectively evaluate non-structural alternatives to maintaining navigation. The COE has steadfastly refused to evaluate present dredging practices in terms of actual economic, social, and environmental impacts. Instead, they have examined them in relation to much greater channel dimensions that have been shown to be unattainable without jetties.

Accordingly, NOAA asks the CEQ to support NOAA's recommendation that the COE select the no action alternative, thereby allowing continued maintenance dredging and protection of important commercial and recreational fishery species.

Details regarding the basis for this referral and our recommendation are provided in the enclosed supporting statement. We continue to support the project goal of safe, reliable navigation through the inlet and we are prepared to work cooperatively with the COE and CEQ to resolve this matter in accordance with the purposes of the National Environmental Policy Act.

Sincerely,

Scott B. Gudes
Acting Under Secretary for Oceans
and Atmosphere/Administrator

Enclosures

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cc: Assistant Secretary of the Army (Civil Works)
Acting Director, Office of Federal Activities, EPA
Acting Assistant Secretary, Fish, Wildlife & Parks, DOI

Deputy Assistant Secretary for Policy and
International Affairs, DOI
Director, Office of Environmental Policy and Compliance, DOI

DEPARTMENT OF COMMERCE (DOC)/
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA)/
NATIONAL MARINE FISHERIES SERVICE (NMFS)
DOCUMENTATION FOR REFERRAL TO THE

COUNCIL ON ENVIRONMENTAL QUALITY (CEQ)
OF THE CORPS OF ENGINEERS (COE) MANTEO (SHALLOWBAY) BAY PROJECT,
DARE COUNTY, NORTH CAROLINA

INTRODUCTION

The following statement is made pursuant to CEQ's procedures for referrals at 40 C.F.R. 1504.3 (c)(2). It is based on the Final Supplement III to the Final Environmental Impact Statement (FEIS) for the Manteo (Shallowbag Bay) Project (MSBP) released on September 21, 2001, by the Wilmington District, COE. This document supports DOC's conclusion that this project under the preferred alternative set forth in the FEIS is unsatisfactory from a standpoint of environmental quality, particularly with respect to degradation of significant areas of highly productive fishery habitat resources of regional and national importance under the responsibility of DOC.

1. Environmental Concerns

NOAA concludes that the preferred alternative in the FEIS is environmentally unsatisfactory for the following reasons. The project would eliminate or degrade significant areas of highly productive fishery habitat, thereby reducing fishery production due to habitat loss. The habitat that would be degraded or destroyed has been designated by NMFS and the Fishery Management Councils as Habitat Areas of Particular Concern (HAPC) within essential fish habitat for many marine and estuarine species, such as sharks, shrimp, Spanish mackerel, reef fish, summer flounder and bluefish. These habitats were designated as HAPCs because they have an extremely high environmental value to the fisheries and are vulnerable to degradation. Loss of these habitats could have serious impacts on our nation's fisheries. Additionally, the project would alter currents that carry larval and post larval stages of fish and invertebrates from the ocean, through Oregon Inlet, and into rearing sites in sheltered estuaries, preventing the larvae from reaching these important rearing sites. Oregon Inlet is the single access point between Albemarle and northern Pamlico Sounds and the ocean and of great importance to fishery resources. Numerous marine and estuarine species would be severely impacted by the altered current pattern, including such valuable species as summer flounder, red drum, and shrimp.

NOAA also considers the FEIS itself to be seriously flawed because the COE's evaluation of the no action alternative is too limited, mitigation proposed by the COE is inadequate, and the COE did not give adequate consideration to the possible project effects, particularly environmental harm. This inadequate NEPA analysis leads to the COE's mistaken conclusion that the proposed project would cause little to no environmental harm.

2. DOC Statutory Authority

DOC, acting through its subagencies, NOAA, and NMFS, has responsibility for marine,

estuarine, and anadromous fishery resources under various Federal laws, including the Fish and Wildlife Coordination Act (FWCA), 16 U.S.C. 661 *et seq.*; the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), 16 U.S.C. 1801 *et seq.*; the National Environmental Policy Act (NEPA), 42 U.S.C. 4321 *et seq.*; and the Endangered Species Act (ESA), 16 U.S.C. 1531 *et seq.* The NMFS is one of several NOAA agencies having expertise in fisheries management, marine and estuarine biology, and environmental impact evaluation and management. Pursuant to the appropriate authorities, NMFS provided comments to the COE throughout the COE's process of considering this action.

BACKGROUND

The MSBP was authorized by the Rivers and Harbors Act of 1970 (P.L. 91-611). The purpose of the project is to provide cost efficient, reliable, and safe navigation through Oregon Inlet which is located in Dare County on the North Carolina Outer Banks. Costs involved with stabilizing the inlet by dual jetties, which is the proposed alternative, would be offset by claimed economic benefits derived from increased recreational boater use and energy savings by commercial fishers. The project is steadfastly opposed by governmental and non-governmental conservation agencies and groups who are involved in the impact review process. Beginning in the mid-1970s, there have been repeated, though unsuccessful, efforts and studies to resolve environmental concerns.

The project area includes Oregon Inlet; the Atlantic Ocean in the vicinity of the inlet; Roanoke, Albemarle, and Pamlico Sounds and associated waters and wetlands; and the barrier islands located to the north and south of the inlet. Lands located to the north of the inlet and on which the north jetty would be located are Federally owned and managed by the National Park Service (NPS) as a component of the Cape Hatteras National Seashore. Those to the south, and upon which the south jetty would be built, are also Federally owned and are managed by the U.S. Fish and Wildlife Service (FWS) as Pea Island National Wildlife Refuge. Cape Hatteras National Seashore was authorized by Congress in 1937 and established in 1958. Pea Island National Wildlife Refuge was established by Executive Order in 1938.

Currently, the COE is conducting maintenance dredging in the channel to keep the depth at roughly 12 - 14 feet and a width of less than 300 feet. This maintenance dredging is considered by the COE to be the No Action Alternative in their FEIS.

The FEIS examines channel maintenance by a combination of jetties and dredging, and by dredging only. The proposed alternative provides for (1) deepening the ocean bar navigation channel at Oregon Inlet from 14 to 20 feet and widening it from 200 feet to 400 feet; (2) construction of two, rubblemound, stone jetties at Oregon Inlet to maintain the deeper and wider channel; and (3) implementation of a Sand Management Plan to relocate sand trapped by

the jetties onto down-drift beaches. The original economic justification was to improve access through the inlet to increase fish and squid landings at Wanchese Harbor, located on nearby Roanoke Island. As a result of consultation with the NOAA in the mid 1990s, the COE concluded that additional fish and squid landings would not occur as a result of jetty construction

and the project purpose was limited to improving commercial fishing efficiency, reliability, and safety.

Throughout the 1970s and much of the 1980s, NMFS supported the concept of building jetties as a means of furthering the landings of fin fish and shellfish harvested from offshore waters because it would allow easy access to offshore waters for fishing boats. However, by 1989, the preponderance of information showed that fish stocks had declined to the point where project-related benefits involving additional fish landings could no longer be supported. Also during this period, NMFS began to examine the role of inlets in the passage of larval and post-larval fish and invertebrates into estuaries, and to more closely examine possible environmental consequences of building jetties on the North Carolina Outer Banks. Exhaustive evaluation of the nature and magnitude of possible impacts led to NMFS's determination that it could no longer support the COE's plan to build jetties since the level of possible environmental harm far exceeded any benefits that might be derived.

In reviewing the Draft EIS for the project, NMFS identified serious deficiencies in the COE's assessment of reasonably foreseeable environmental impacts. NMFS also noted that evaluation of the No Action Alternative was neither useful nor acceptable since it merely evaluated the established fact that dredging alone could not be used to attain the authorized (but no longer needed) project dimensions. The COE did not consider the actual impacts and benefits of the No Action Alternative. The COE's evaluation also ignored data which demonstrate that the No Action Alternative has similar or possibly greater economic benefit than the proposed jetty alternative. NMFS conveyed these views to the COE in a detailed response to the Draft EIS and they were essentially dismissed in the FEIS response to NMFS comments.

NMFS is committed to working with the COE and others to foster reliable and safe passage of vessels through Oregon Inlet, and to generate greater economic gain for the region and the nation. However, the proper balance between these goals and those of protecting environmental resources that also have great economic and other values cannot be attained by building jetties. Therefore, some other means of providing navigation access is needed, even if the economic benefit may be reduced.

Basis for the NOAA Referral

The key elements of our referral are:

3. The FEIS does not describe and analyze significant and reasonably foreseeable effects of the jetties on fishery resources that must migrate through Oregon Inlet, the only access between Pamlico /northern Albemarle Sounds and the ocean for over 100 miles, to reach requisite nursery and maturation sites;

4. The FEIS does not describe and analyze significant and reasonably foreseeable effects of the jetties involving beach erosion, barrier island overwash, and subsequent destruction of

estuarine habitat;

5. The FEIS does not devote appropriate substantial treatment to a reasonable, less damaging alternative; and
6. The FEIS does not provide the basis to identify mitigation needs, thereby preventing determination and evaluation of mitigation options.

The FEIS does not adequately consider or address issues or information presented by the NMFS, FWS, NPS, and many eminent coastal engineers, geologists, and biologists who conclude that significant environmental harm is likely to result from building jetties at Oregon Inlet. The COE merely dismissed these concerns based solely on their determination that the potential for enormous environmental destruction cannot be categorically proven. On the other hand, the FEIS contains no conclusive evidence to support the relatively small economic benefits claimed, or that only negligible environmental effects will result from the proposed jetty alternative. The COE's dismissal of agency concerns by citing lack of conclusive scientific proof, while selecting an alternative that has even greater uncertainties and genuine potential for enormous environmental harm, undermines and is contrary to the intent of the NEPA to foster prudent and wise decision making.

NOAA specifically contends that the proposed COE project would cause unsatisfactory environmental harm to fishery resources and their habitat. In addition, this FEIS fails to meet the procedural requirements and purposes of the NEPA since (1) reasonably foreseeable impacts associated with the proposed alternative are not identified and (2) a less damaging alternative is neither identified nor considered. Associated criteria for referral, as identified in 1504.2 of the NEPA Implementation Regulations, include the severity of impacts associated with the proposed action and the availability of an environmentally preferable alternative.

INFORMATION REQUIRED BY CEQ'S REGULATIONS GOVERNING REFERRALS (40 CFR 1504.3(c)(2))

(i) Identify any material facts in controversy and incorporate (by reference if appropriate) agreed upon facts.

1. According to the FEIS, significant adverse impacts involving larval transport of marine species will not occur.

NOAA Position: NOAA does not agree with this COE determination since it is based almost exclusively on two studies that provide no reasonable evidence regarding the effects of building jetties at Oregon Inlet. The first investigation is an analysis prepared by A. J. Metha and C. L. Montague, independent investigators hired by the COE, who examined "fundamental concepts and available literature on a variety of inlets, including reported results of numerical and

physical models.”¹ The COE places great significance on the contractors’ determination that, “We were unable in our examination to detect any large (>10%) negative impacts of jetties at Oregon Inlet. . . .” The second study includes results of investigations from Aransas Pass in Texas that, according to the FEIS (page 6-16), “found no appreciable effects” caused by jetties.²

While NOAA agrees with the COE that the Metha-Montague study provides insight into factors that affect larval transport, the level of analysis provided is not sufficient to support a “no significant effect determination” with regard to larval transport at Oregon Inlet. This is evidenced by the study team’s acknowledgment that, “However, many considerations relevant to larval impact were identified that remain unquantified due to scant information on this particular subject, or due to computational complexity beyond the scope of this opinion. Hence, potentially significant impacts can by no means be ruled out.”

NOAA believes that the assumptions made by the COE for the Aransas Pass study, which the COE cites as evidence that jetties do not “appreciably affect” larval transport, are simply not supported. The study neither presents nor evaluates changes in larval abundance that occurred before and after jetty construction and no measure of the level of change that may or may not have occurred is given. Consequently, for this study to have relevance in this case, one would have to accept the premise that mere presence of larval forms in the vicinity of jetties is proof that jetties do not appreciably affect larval transport. Support of this conclusion is not possible based on either rational thought or scientific evaluation. To further elucidate our concern and disagreement with this line of thought, its applicability in connection with building jetties at Oregon Inlet would also necessitate presumption that the physical environment at Aransas Pass,

¹Metha, A. J. and C. L. Montague. 1991. A brief review of flow circulation in the vicinity of natural and jettied inlets: tentative observations on implications for larval transport at Oregon Inlet, NC. Report to U.S. Army Corps of Engineers, Wilmington District, Wilmington, NC. 73pp.

²Copeland, B. J. 1965. Fauna of the Aransas Pass, Texas: I. Emigration as shown by tide trap collections. Publications of the Institute of Marine Science, University of Texas 10:9-29.

Texas, is similar to that at Oregon Inlet and that extrapolation of data is possible. This is neither likely nor demonstrated.

Although not cited by the COE, their most recent evaluation of jetty impacts also does not support their views provided in the FEIS regarding the effects of jetties on larval transport. Specifically, they have found that no conclusive evidence exists to support or discount jetty impacts on egg and larval transport. This fact is true even where jetties have been present for relatively long time spans of time. According to the COE publication “Environmental engineering for small boat basins” [COE. 1993. Washington, DC. 39p]:

“Early life history stages, namely eggs and larvae, of many important commercial and sport fishes and shellfishes are almost entirely dependent on water currents for transportation between spawning grounds and nursery areas. A concern which has sometimes been voiced by resource agencies in relation to jetty projects is that altered patterns of water flow may adversely affect transport of eggs and larvae. Those eggs and larvae carried by longshore currents might be especially susceptible to entrapment or delay in eddies and slack areas formed adjacent to updrift jetties at various times in the tidal cycle. Even short delays in the passage of eggs and larvae may be significant because of critical relationships between developmental stage when feeding begins and the availability of their food items. All aspects of this potential impact remain hypothetical. No conclusive evidence exists to support either the presence or absence of impacts on egg and larval transport. This fact is true even where jetties have been present for relatively long spans of time. [emphasis added] The complexity of the physical and biological processes involved would render field assessments of this impact a long-term and expensive undertaking. The results of hydraulic modeling studies related to this question have been inconclusive. Future modeling studies combined with field verification studies may provide insight into resolving the validity of this concern.”

NOAA readily acknowledges that the affects of jetties on larval transport are undetermined. On the other hand, available data, including that developed by the COE, clearly demonstrate that building jetties at Oregon Inlet will induce major change in currents and other factors that control larval transport, and the movement of larvae through the inlet. To better define the level of possible reduction that may occur with jetties, NOAA scientists have examined current data on larval transport from Oregon Inlet and other inlets in North Carolina. Using a baseline transport reduction estimate of 60 percent, that was derived from an October 1980 study performed by the COE’s Waterways Experiment Station (using a scale model of Oregon Inlet), researchers at the NOAA/National Ocean Service Center for Coastal Fisheries and Habitat Research (CCFHR) determined that such reductions (60 percent) cannot be ruled out and are within reason. The 60 percent reduction estimate was also evaluated and is accepted by Dr. John Miller at North Carolina State University (NCSU), who is a recognized authority on larval transport and factors influencing fishery production in North Carolina estuaries.

In the absence of conclusive evidence that a single, fixed impact level exists, NOAA believes that, at a minimum, a range of reasonably foreseeable larval reduction values should have been developed and evaluated. With regard to decision making, the difference in the magnitude of impact between larval transport reductions of 10 percent and 60 percent are significant. NOAA would not support even the lowest projected larval reduction of 10 percent because this would cause a significant reduction of fishery resources. If the larval transport levels are reduced by as much as 60 percent, the upper level considered by a different study, such an effect would be completely unacceptable to NMFS.

Based on the preceding, the COE's determination that significant reductions in larval transport are not reasonably foreseeable is unsubstantiated and we do not agree with that determination. In the absence of a more accurate description and adequate evaluation of reasonably foreseeable impacts and mitigation, NOAA believes that the FEIS is deficient to the point where its use for decision making would contravene the purpose, requirements, and intent of NEPA.

2. According to the FEIS, impacts to aquatic habitats and resources located in Roanoke and Pamlico Sounds will not occur and, if realized, can be offset through mitigation.

NOAA Position: As in the case of its no significant effect determination for larval transport, the COE provides no reliable evidence to support this claim. On the other hand, they dismiss credible evidence which indicates that significant impacts are reasonably foreseeable, if not probable. This situation is exacerbated by the absence of a reliable plan for mitigation in the event that significant adverse impacts are realized.

The COE has intensively studied the anticipated effects of jetties on geomorphology and has considerable information and data which support their conclusion that, with timely and adequate sand bypassing, accelerated beach erosion and more frequent island overwash will not occur. However, we also believe that the COE has a statutory responsibility pursuant to NEPA to adequately consider and address other credible views and information. This is particularly true when there is almost unanimous agreement that the COE's findings may be inaccurate and could result in action that causes major, if not catastrophic, environmental harm. Specifically, the MSBP has been the focus of numerous studies by independent and non-government scientists hired under contract to the Department of the Interior, and by investigators from academia and government agencies. Contributors include Dr. Douglas Inman of Scripps Institute of Oceanography, Dr. Orrin Pilkey of Duke University, Dr. Robert Dolan of the University of Virginia, Dr. Robert Dean of Florida State University, and other experts in the field. The conclusion reached in every investigation by these researchers is the same: building jetties at Oregon Inlet has significant probability of causing accelerated beach erosion and increased frequency and magnitude of overwash of coastal barrier islands located to the south of the inlet.

There is also agreement among non-COE investigators that sand movement through the inlet will be altered and the processes that build and maintain shoals, aquatic grass beds, emergent wetlands, and other productive habitats will be altered.

In view of the large amount of highly credible information which demonstrates that resources and their habitat under purview of NOAA could be significantly and adversely affected, we do not believe that the COE should go forward with the preferred jetty alternative. In the event that the jetties are built over our objections and those of many others, the technical aspects of environmental monitoring and mitigation would need greater attention than is provided in the FEIS. Much greater detail would be needed to ensure that impact detection and remediation are adequate. The COE would need to evaluate possible levels of impact to wetlands and other habitats resulting from greatly accelerated barrier island erosion and overwash. Although the COE has been reluctant to disclose the costs associated with environmental monitoring and

mitigation of substantial impacts, such disclosure is needed since the existing authorization contains no provisions for funding these actions. Although the COE addresses this by noting that funds for these activities could be provided via other authorities, this funding is unreliable and may not be forthcoming or timely.

To summarize, there is good reason to anticipate that significant environmental harm will result from building jetties, and there is no meaningful plan or designated funding available to address this harm. As such, NOAA cannot support the COE's preferred jetty alternative.

3. According to the FEIS, adequate mitigation for any reduction in movement of larval fish and invertebrates through the inlet can be offset by adding a weir structure.

NOAA Position: As has been pointed out by researchers at the CCFHR, the NMFS, and NCSU (Dr. John Miller), the effectiveness of the weir section as a functional passageway for larvae is highly speculative and untested. Even though the proposed 1000-foot-long weir section, with an elevation equal to mean tide level, will permit overflow from mid-flood through mid-ebb it cannot be assumed that it will serve as an effective passageway for larval fish and invertebrates.

The proposed weir would begin at the shoreline and extend offshore joining the main jetty at a water depth of around one meter below mean sea level (based on the adjusted water depth after jetty construction). Mean tidal ranges in the inlet are 0.6 to 0.7 meters. Thus, maximum water depths at the distal end of the weir would be around two meters. Since little is known about species composition, distribution, and abundance of larval fishes in such shallow water outside of inlets, the COE's assumption that larval transport will occur is unfounded. Differences in species composition, distribution (both horizontal and vertical), and abundance of larval fishes have been found during previous studies conducted in waters 5-10 meters deep in and around the ebb-tide delta at Oregon Inlet and other inlets. These results suggest that the weir alternative may not be

favorable for some species since they were not found at the weir depths or because they enter the inlet in bottom water flows. This concern is supported to some degree by the COE's numerical and physical modeling studies of flows at Masonboro Inlet, North Carolina, which indicate that flows through the weir section were minimal and that substantial zones of no net movement of water (eddies) exist along the updrift side of the jetty including the area where the weir is located.

In addition to a complete absence of reliable information to indicate that the weir will function as a passageway for larvae, there is considerable evidence to indicate that the weir could become blocked by sand. In this case, it would not only cease to function as a possible avenue for larvae movement, but it would also cease to function with regard to the essential sand bypass requirement of the jettied inlet. This situation is referenced in the Wilmington District's 1995 Feature Design Memorandum for Sand Bypassing Management which, in rejecting plans for a weir states, "The major concerns, particularly with the weir jetty plan, were the high rates of littoral (sand) transport that could occur during singular or multiple storm events, and the possibility of reversals in the net direction of littoral transport during any year. Also, the amount of material available for bypassing would be limited to that retained in the sediment trap. With respect to storms, sand transport could be so large that the weir would become 'landlocked,' thus preventing the deposition of material in the sediment trap. . . ."

In summary, based on the scientific evidence stated above, including the COE's own analysis of weirs, use of the proposed weir would not provide adequate mitigation for disruptions in larval transport.

(ii) Identify any existing environmental requirements or policies which would be violated by the matter.

1. CEQ regulations regarding requirements of an environmental impact statement, 40 CFR 1502.

The COE did not follow CEQ regulations concerning the analysis of alternatives and analysis of reasonably foreseeable impacts. As noted in the CEQ regulations (40 CFR 1502.14), the alternatives analysis is, "the heart of the environmental impact statement," yet, as discussed below, the COE did not fully considered a feasible environmentally acceptable alternative. The COE also violated CEQ's regulations governing consideration of environmental consequences at 40 CFR 1502.16. Additionally, the COE violated the purpose of a NEPA analysis set forth in the CEQ regulations at 40 CFR 1500.1(c), which states that, "NEPA's purpose is not to generate paperwork – even excellent paperwork – but to foster excellent action. The NEPA process is intended to help public officials make decisions that are based on an understanding of environmental consequences, and take actions that protect, restore, and enhance the environment." An action that would jeopardize a nationally important refuge for wildlife, a publically owned seashore, and immensely productive and valuable fishery habitats cannot be regarded as "excellent" by any standard in striving for harmony between man and the environment. Because of its immense natural beauty, value as a vastly productive aquatic ecosystem, and importance as a publically owned National Wildlife Refuge and National Seashore, the project area should be given the highest level of protection afforded by

environmental requirements and policies.

With regard to the inadequacy of the alternatives analysis, the COE's evaluation of the No Action Alternative is limited exclusively to results of efforts to provide the authorized 20-foot-deep by 400-foot-wide channel dimensions at the ocean bar. Although we agree that evaluation of this parameter is warranted, an analysis of the actual results attained, irrespective of the authorized dimensions, is needed. This characterization of the no action alternative is too limiting because it does not take existing conditions into account.

Specifically, in connection with the No Action Alternative, the FEIS does not consider that the target channel dimensions used (20 feet deep by 400 feet wide) have little relationship to existing navigation needs at Oregon Inlet. The target channel dimensions were developed in the 1970s and were designed to accommodate intensive fishing efforts that would rely on deeper draft vessels and continuous navigation access across the ocean bar. This projected fishery never materialized and it is doubtful that the early landing projections were even valid. To further emphasize this point, NOAA and the COE agree that all available fish can be taken by vessels that presently transit the ocean bar under existing inlet conditions. This harvest level is possible even though authorized channel dimensions exist ". . . less than 24 percent of the time" (page 7-23, paragraph 2, of the Draft EIS). With regard to future fishing and navigation needs, NOAA has advised the COE that most offshore fisheries are overcapitalized and we anticipate that the size of the fleet will be reduced as owners seek greater efficiency through use of fewer vessels. This will be particularly true for the 10 to 30 years that it will take to rebuild over-fished fisheries such as sea scallops, swordfish, sharks, and summer flounder.

The COE's channel dimensions used in the No Action Alternative are not limited strictly to projected navigation needs developed in the 1970s; they have basis in terms of present day physical conditions and navigation needs for some vessels which rely on Oregon Inlet. These factors do not, however, negate the requirement to identify and assess reasonable alternatives to the proposed action that may avoid or minimize adverse impact on the quality of the human environment. The existing navigation maintenance efforts at Oregon Inlet seem to meet this requirement and need to be fairly and objectively evaluated.

In consideration of clear evidence that fishing and navigation occur under existing conditions at Oregon Inlet, NMFS performed a cursory, but straightforward examination of costs and benefits for the existing 14-foot project (i.e., the No Action Alternative based on actual conditions) and the Jetty Alternative. The results of this admittedly facile analysis indicate that economic benefits of the No Action Alternative, when analyzed independent of the authorized project dimensions, could exceed those of the Jetty Alternative. Using figures developed by the COE, we submit that:

- Annual cost for the existing 14-foot Project is \$6,949,000 (Table 7.7 of the Draft EIS). Using projected annual "benefits" of \$17,986,000, the value of fish landed through Oregon Inlet according to the North Carolina Division of Marine Fisheries (NCDMF), a benefit/cost ratio

of 2.6 is realized.

- Annual cost for the jetty alternative is \$10,643,000 (\$6,132,000 for dredging/sand bypassing + \$4,520,000 for interest/amortization on the jetties). Annual benefits include \$17,986,000, the value of fish landed through Oregon Inlet according to NCDMF, and \$7,237,000 which reflects reduced fishing time and increased recreational opportunities, or a total of \$25,223,000. The associated benefit/cost ratio is 2.4; however, costs of environmental monitoring and mitigation are not included.

While this analysis is an over-simplification of what is needed to determine the proper course of action at Oregon Inlet, it illustrates that the No Action Alternative based on actual conditions at Oregon Inlet merits detailed evaluation in the alternatives analysis. In responding to this information in the EIS, the COE simply claims that, “The required channel is not hypothetical and is correctly analyzed and evaluated.” However, this reply misses the point and should not be used to circumvent the impact disclosure and analysis requirements of NEPA.

As presented in considerable detail above, the COE did not perform a fair and objective evaluation of the actual effects of the No Action Alternative. Instead, this alternative was examined on the basis of how it performed in comparison to the authorized 20-foot-deep by 400-foot-wide navigation channel. This approach is not justified given that the 20-foot-deep by 400-foot-wide navigation channel navigation requirement was established in the 1970s for perceived channel dimensions that are no longer needed. More importantly, the evaluation process used by the COE conspicuously ignores the requirement that Federal agencies shall to the fullest extent possible use the NEPA process to identify and assess the reasonable alternatives to the proposed actions that will avoid or minimize adverse effects of the actions upon the quality of the human environment. The evaluation of the No Action Alternative provided by the COE appears to intentionally avoid identification and assessment of an alternative that would minimize adverse effects.

At the same time that the COE fails to fully and accurately describe the effects of the No Action Alternative, which NOAA believes are minor, the COE all but disregards reliable data and scientific opinion which demonstrate that the preferred alternative could cause significant environmental harm. A vast amount of scientific evidence has been submitted which forecasts a high probability that the jetty alternative would (1) cause catastrophic harm due to disruption of timely and adequate sand movement across the inlet; and (2) significantly reduce transport of subadult fish and invertebrates through the inlet and into estuaries where maturation occurs. Information in support of these views was developed by internationally and nationally recognized experts in the fields of coastal geology, coastal engineering, and marine biology. Contributors include Dr. Douglas Inman of Scripps Institute of Oceanography, Dr. Orrin Pilkey of Duke University, Dr. Robert Dolan of the University of Virginia, Dr. Robert Dean of Florida State University, Dr. John Miller of NCSU, and Dr. Larry Settle of the CCFHR. The views of these scientists have been carefully reviewed by biologists and resource managers within NOAA, the

FWS, and the NPS, and were conveyed to the COE in support of agency views and positions. While the COE has analyzed and refuted the information presented, the contrary views they present are no stronger, and are in most instances less convincing, than those developed by non-COE scientists. As such, NOAA believes that to fulfill requirements contained in 40 CFR 1502.16, the FEIS would need to be expanded to describe and evaluate reasonably foreseeable impacts of accelerated beach erosion and barrier island overwash; damage to or loss of tidal flats, emergent wetlands, and submerged aquatic vegetation; and significant reduction of larval movement through the inlet.

We also note that the COE, through its FEIS, does not adequately identify and address two key environmental concerns raised by NMFS, FWS, NPS, non-governmental agencies, and individuals. These include (1) the magnitude and nature of environmental harm resulting from jetties and associated beach erosion, barrier island overwash, and subsequent damage to estuarine habitats and biota; and (2) the range of effects that are possible in terms of jetty-related reductions in movement of larval and post-larval fish and invertebrates through the inlet.

By not fully describing the magnitude of these reasonably foreseeable impacts the COE inappropriately avoided discussion and analysis of a clear and substantial need for mitigation. This contravenes fundamental aspects of the CEQ regulations that require disclosure of significant impacts and consideration of meaningful mitigation. In consideration of the magnitude of impacts that are reasonably possible in connection with building jetties at Oregon Inlet, it is possible that with disclosure of such impacts it could be successfully argued that the appropriate mitigative action would be that of avoidance, or not taking action that would result in the preferred jetty alternative. Of paramount importance is the abundance of valid scientific evidence and expert opinion which shows that significant environmental harm is a reasonable and foreseeable consequence of building jetties.

In summary, the COE alternatives analysis violates CEQ regulations at 40 CFR 1502.14 and environmental consequences regulations at 40 CFR 1502.16 because their evaluations of the No Action Alternative, environmental consequences, and mitigation are inadequate.

2. Fish and Wildlife Coordination Act (FWCA), 16 U.S.C. 661 et seq.

The FWCA states that, “fish and wildlife conservation shall receive equal consideration and be coordinated with other features of water resources development programs . . .”. 16 U.S.C. 661 The FWCA requires Federal agencies proposing to control or modify any water body to first consult with NMFS and FWS to conserve fish and wildlife resources by preventing damage to such resources and by providing for the improvement of such resources. 16 U.S.C. 662. The FWCA also authorizes agencies to modify water control projects to conserve wildlife resources as well as providing for development, and to submit to Congress an estimation of the wildlife benefits and losses that would be caused by a new project.

NMFS has provided comments on the detailed FWCA report of the FWS and has provided

numerous recommendations to the COE to conserve and protect marine and estuarine fish resources. In almost every instance, NMFS requested that the COE consider developing a “dredging only” alternative, and has consistently advised that the environmental consequences of the jetty alternative would be so adverse and severe that it would preclude our support for the project. With regard to planning, we have for the past ten years asked that the COE fairly and objectively evaluate alternatives that would be less damaging. We have cited numerous discrepancies in connection with design of the jetties and the type and magnitude of impacts that could result if they are built. In more specific terms, we have advised that the jetties, as a result of disruption of sand movement and transport of larval fish and invertebrates, could significantly diminish habitats and fishery resources that are of immense commercial, recreational, and ecological importance.

While the procedural requirements of the FWCA may have been met, the COE has done little else to implement the purposes of, or any tangible measures related to, the “equal consideration” provisions of the Act. Although the COE claims that the decision to add a weir section and shorten the length of the jetties were in response to NMFS concerns, we note that these changes do not address our concerns involving the effects of disrupting sand migration across the inlet, nor do they alleviate our concern over possible reduction in transport of larval fish and invertebrates through the inlet. As a matter of fact, these changes in the jetty design were categorically unacceptable to the COE until it was realized that, in their absence, the project would not be cost effective. As such, it is difficult to identify any significant effort on the part of the COE to equally consider fish and wildlife conservation in connection with project planning. It appears the COE’s environmental consideration has been limited to that which fosters or does not get in the way of building jetties. Therefore, the COE has not meet the equal consideration requirement of the FWCA.

(iii) Present the reasons why the referring agency believes the matter is environmentally unsatisfactory.

Reasons for NOAA’s determination that the preferred jetty alternative is environmentally unsatisfactory are presented in detail in other sections of this document. They are summarized here.

1. Reasonably foreseeable significant adverse impacts involving larval fish movement through Oregon Inlet and into requisite rearing habitats exist with the preferred jetty alternative. Since the larvae would not be transported to these important habitats, they would suffer a higher mortality rate with the attendant decrease in fish stocks, including striped anchovy, bay anchovy, bluefish, American eel, Atlantic menhaden, weakfish, summer flounder, red drum, Spanish mackerel, and several shrimp species.
2. Reasonably foreseeable significant adverse impacts involving beach erosion, barrier island overwash, and subsequent destruction of estuarine habitat exist with the preferred jetty alternative. This would cause a decrease in fish populations that depend on this essential

habitat, such as various sharks, shrimp, Spanish mackerel, reef fish, bluefish, and summer flounder. Habitats affected include intertidal marsh, mud and sand flats; seagrass, coastal inlets, and the surf zone.

3. A practicable and less damaging alternative exists, but was not properly evaluated by the COE. This lack of adequate consideration, and lack of choice of, a less damaging alternative will cause unacceptable environmental harm to fishery resources.
4. There is no assurance that mitigation needs can or will be identified, or that impacts can be offset. The COE's lack of consideration even of the need for mitigation, and therefore, lack of adequate mitigation, will cause unacceptable environmental impacts on fishery resources.

(iv) Contain a finding by the agency whether the issue raised is of national importance because of a threat to national environmental resources and policies or for some other reason.

NOAA has statutorily mandated stewardship and management responsibilities for the nation's living marine resources. In reviewing the environmental documents for the MSBP we have focused largely on possible impacts on aquatic habitats located within the project area. Based on our analysis of information provided by the COE and on input from a number of distinguished scientists and recognized authorities in the fields of coastal geology, coastal engineering, and marine biology, we believe that great environmental risk is involved with building jetties at Oregon Inlet. The most important areas and resources in jeopardy include estuarine tidal and intertidal lands and waters located behind adjacent barrier islands, and larvae and post-larvae of fish and invertebrates that must migrate through the inlet to reach maturation sites. It is important to note that a decision to not build jetties could eliminate the opportunity to generate about \$2.7 million in annual economic benefit; however, by building jetties, we face the risk of environmental losses of such magnitude that mitigation may not be possible. The losses will involve a significant decline in commercial and recreational fish stocks of national importance, as discussed below.

The national importance of the issues raised is defined in terms of the value and importance of the resources that are at risk of elimination or degradation. The emergent wetlands, submerged aquatic vegetation beds, and shallow water habitats located landward of the barrier islands surrounding Oregon Inlet are among the most productive habitats in the world. Although estimates vary, in excess of 90 percent of the southeast region's commercially and recreationally important finfish and shellfish rely on these types of habitats for some aspect of their existence. The NMFS has identified 15 species found in Albemarle, Roanoke, and/or Pamlico Sounds that are species of national economic importance under the Water Resources Development Act of 1986. They contribute greatly to the economic and social welfare of North Carolina and the nation.

As mandated by the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-

Stevens Act), the South Atlantic and Mid-Atlantic Fishery Management Councils and NMFS, have identified areas of essential fish habitat (EFH) for species under their respective jurisdictions at and near Oregon Inlet. EFH, which would be impacted by the proposed jetty alternative of the MSBP, is defined in the Magnuson-Stevens Act as those waters and substrate necessary to fish for spawning, breeding, feeding or growth to maturity. For fisheries managed by the councils and NMFS, including various sharks, shrimp, coastal migratory pelagics (e.g., Spanish mackerel), reef fish, summer flounder, and bluefish, EFH includes intertidal marsh, seagrass, intertidal mud and sand flats, coastal inlets, surf zone, and other estuarine and marine habitats. Because of their extremely high environmental value and vulnerability to degradation, tidal inlets and seagrass also have been identified as Habitat Areas of Particular Concern (HAPC). The regulations implementing the Magnuson-Stevens Act specify that HAPC are subject to more stringent habitat conservation measures. The designation of HAPC is a clear indication of the national importance of these habitats and fisheries.

Successful ocean to estuary migration of larvae and post-larvae of many near or offshore spawned fish and invertebrates is essential since maturation is not possible in the ocean environment. Oregon Inlet represents the single most important pathway for larval fish migration into Albemarle Sound and northern Pamlico Sound. Species involved include, but are not limited to, striped anchovy, bay anchovy, bluefish, American eel, Atlantic menhaden, weakfish, spot, pinfish, kingfish, pigfish, summer flounder, searobins, red drum, Spanish mackerel, blue crab, brown shrimp, and white shrimp. Pamlico Sound is also the nation's most

important nursery area for summer flounder and weakfish and any reduction in the ability of these fishes to reach essential developmental sites is likely to produce an eventual decline in abundance and production of these fish stocks.

Any reduction in the number of larvae that migrate through Oregon Inlet and into Albemarle Sound would not be offset by those entering from other inlets since the hydrological connection between Albemarle Sound and other inlets is only minor. Also, since Albemarle Sound is thought to be under-colonized by larvae it is unlikely that a reduction in the number of individuals entering the Sound by way of Oregon Inlet would lessen competition and thereby offset natural controls on productivity and abundance. Consequently, it is plausible that any reduction in larvae passed through Oregon Inlet would result in a comparable reduction in fishery production and harvest. This could also affect interstate recovery efforts for species such as striped bass, summer flounder, and weakfish which are recovering from historical overfishing.

(v) Review the steps taken by the referring agency to bring concerns to the attention of the lead agency at the earliest possible time.

By 1989, the preponderance of information showed that fish stocks had declined to the point

where the project-related benefits projected by the COE involving additional fish landings could no longer be supported. NMFS conveyed this view to the COE in correspondence and at meetings held between 1991 and 1995. The matter was resolved when the COE accepted the NMFS's view that inlet stabilization would not result in increased fish landings. In 1989, the NMFS began closer examination of the role of inlets in the movement of larval and post-larval fish and invertebrates into estuaries. Evaluation of information from other inlets in North Carolina, as well as closer examination of data from Oregon Inlet, led to the determination that jetties could substantially affect the ingress of larval fish and invertebrates which rely on the inlet as a passageway to estuarine waters of Albemarle, Roanoke, and northern Pamlico Sounds. Beginning in 1991, and in subsequent correspondence and detailed comments on the Draft EIS for the MSBP, the NMFS consistently advised the COE that the jetties could cause enormous environmental harm and that a less damaging alternative should be sought.

The NMFS has also responded to information requests by the Office of Management and Budget (OMB) and the General Accounting Office (GAO). In connection with these efforts, NMFS advised that building jetties at Oregon Inlet could result in an unacceptable level of environmental harm and an alternative that relies on dredging only should be sought. These views were presented at a March 2000 meeting at OMB which was attended by representatives from COE Headquarters and from the CEQ. We are unaware of any subsequent action by OMB. The GAO is responding to information requests from Senators John Edwards of North Carolina and Max Baucus of Montana and we understand that the GAO will likely present its findings in March 2002.

(vi) Give the referring agency's recommendations as to what mitigation alternative, further study, or other course of action (including abandonment of the matter) are necessary to remedy the situation.

In recognition of the significant and unacceptable adverse environmental consequences of building jetties at Oregon Inlet, the COE should select the No Action Alternative. This alternative would allow continued dredging in the channel to maintain useable channel dimensions without causing unacceptable harm to fishery resources..

In conclusion, NOAA is convinced that building jetties at Oregon Inlet poses a reasonably foreseeable likelihood of causing significant, long-term, irreversible impacts. Affected resources are nationally important fish and invertebrates, their habitats, and the people who rely on these resources for their livelihood and enjoyment. We are also convinced that mitigation for MSBP impacts may not be possible in view of the potential magnitude of impact, the complexity of measuring change in diverse and dynamic environments, and reliance on authorities and funding that are not available in connection with the MSBP, but must be obtained from other sources.

The Honorable Mike Parker
Assistant Secretary of the
Army (Civil Works)
Department of the Army
Washington, D.C. 20310-0108

Dear Mr. Parker:

This letter is to inform you of the National Oceanic and Atmospheric Administration's (NOAA) decision to refer the Final Supplement III to the Final Environmental Impact Statement (FEIS) for the Corps of Engineers (COE) Manteo (Shallowbag) Bay Project (MSBP), in North Carolina, to the President's Council on Environmental Quality (CEQ). The COE filed the FEIS with the U.S. Environmental Protection Agency on September 21, 2001. The FEIS identifies construction of a dual jetty system at Oregon Inlet as the preferred alternative for maintaining a navigation channel. The project would be built on the dynamic barrier islands of the Outer Banks.

Let me assure you that NOAA strongly supports COE's goal of providing safe navigation for the commercial and recreational fishing vessels using Oregon Inlet. However, we believe there are alternatives that can achieve this goal in an environmentally acceptable manner. Accordingly, NOAA is compelled to disagree with the COE's selected alternative of jetty construction because it would cause unacceptable environmental harm to commercial and recreational fishery resources.

NOAA, through its National Marine Fisheries Service (NMFS) has for many years been opposed to the selected alternative because of the potentially serious environmental impact on fishery resources and related habitats, including essential fish habitats under our purview. The "No Action" alternative involving only dredging within the inlet should be continued. We do not believe these concerns have been adequately assessed in the FEIS. The enclosed documents detail our concerns and evidence in support of our position.

Pursuant to the CEQ's procedures for referrals in 40 CFR 1504.3 (c)(2), NOAA is referring the actions proposed in the FEIS to the CEQ for consideration and action. Our referral notifies the CEQ of our determination that the preferred alternative is likely to cause significant and irreparable harm to living marine and other resources of national importance. We also advise that the FEIS for the project appears to contravene provisions contained in the CEQ Regulations regarding FEISs. Specifically, environmental impacts associated with

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the selected alternative are not fully or accurately disclosed, and a less damaging alternative (the No Action Alternative) was neither fairly or objectively evaluated. We have recommended to the CEQ that the COE choose the no action alternative because it would allow continued maintenance dredging and protection of fishery resources. We continue to support the project goal of safe, reliable navigation through the inlet and we are prepared to work cooperatively with the COE to resolve this matter in accordance with the purposes of the National Environmental Protection Act.

Sincerely,

Scott B. Gudes
Acting Under Secretary for Oceans
and Atmosphere/Administrator

Enclosures

cc: Chairman, Council on Environmental Quality
Acting Director, Office of Federal Activities, EPA
Acting Assistant Secretary for Fish, Wildlife & Parks, DOI
Deputy Assistant Secretary for Policy and
International Affairs, DOI
Director, Office of Environmental Policy and Compliance, DOI

